L Numb r	Hits	Search Text	DB	Tim stamp
2	78	bubbl adj bl w r	USPAT; US-PGPUB; EP ; JPO; DERWENT; IBM_TDB	2003/07/24 08:59
5	2	(bubble adj machine) and inverted	USPAT	2003/07/24 10:25
6	0	(bubble adj blower) and inverted adj bottle	USPAT	2003/07/24 10:25
7	55	bubble and (inverted adj bottle)	USPAT	2003/07/24 10:26
8	3	(bubble and (inverted adj bottle)) and fan	USPAT	2003/07/24 10:26
1	36	bubble adj machine	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/07/24 10:38
9	37	(bubble adj blower) and solution	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/07/24 10:38
10	5	((bubble adj blower) and solution) and supply	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/07/24 10:41
11	2	bubble adj solution adj supply	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/07/24 10:43
12	299	bubble and solution adj supply	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/07/24 10:43
13	22	(bubble and solution adj supply) and fan	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/07/24 12:44
14	0	pro adj bubble adj machine	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/07/24 12:47
15	69	(446/20).CCLS.	USPAT	2003/07/24 12:47

16	4	((446/20).CCLS.) and fan	USPAT	2003/07/24 12:47

Feb. 24, 1942. M. FEDER 2,274,052

TOY FOR BLOWING BUBBLES

Filed April 27, 1939

FIG. 1.

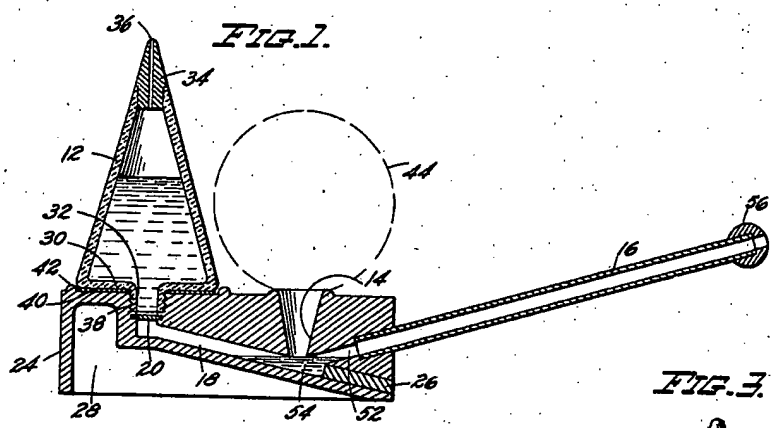


FIG. 3.

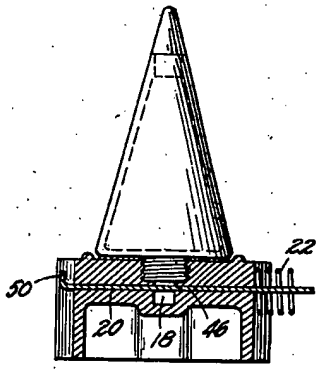


FIG. 2.

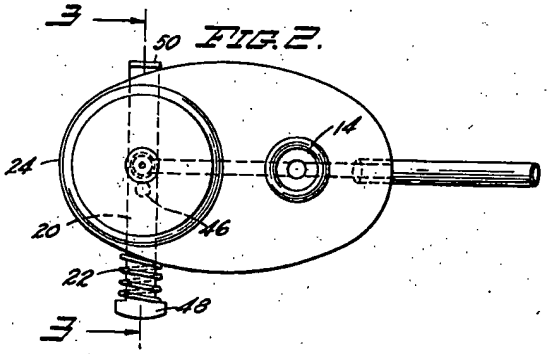


FIG. 4.

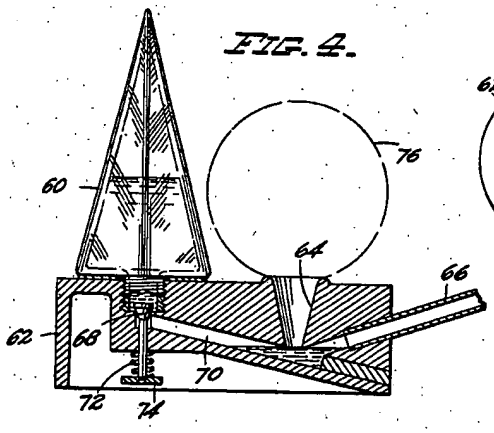
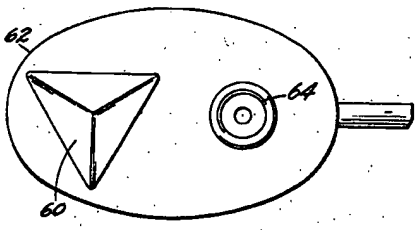


FIG. 5.



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Patented Feb. 24, 1942 2,274,052

UNITED STATES PATENT OFFICE

2,274,052

TOY FOR BLOWING BUBBLES

Max Feder, New York, N. Y.

Application April 27, 1939, Serial No. 270,297

3 Claims. (Cl. 46—7)

This invention relates to toys, and more particularly to a toy for blowing soap bubbles.

The primary object of my invention is to generally improve toys of this character. A more particular object is to provide a toy having a soap container and a bubble forming bowl with a valve between the soap container and the bowl. The valve is preferably normally closed, but is manually openable to admit some soap from the container to the bottom of the bowl.

Further objects are to make the container in the form of a transparent glass vessel; to make the glass container readily removable and replaceable; to provide for refilling the same; and to make the base and bowl out of simple molded parts which may be made inexpensively and yet which will be attractive in appearance.

A more specific object of the invention is to provide a bubble blowing toy which generally simulates a trylon and perisphere, the bubble when blown acting as the perisphere, and the soap container simulating the trylon.

To the accomplishment of the foregoing and such other objects as may hereinafter appear, my invention consists in the toy elements and their relation one to the other, as hereinafter are more particularly described in the specification and sought to be defined in the claims. The specification is accompanied by a drawing, in which:

Fig. 1 is a longitudinal section through a bubble blowing toy embodying features of my invention;

Fig. 2 is a plan view thereof;

Fig. 3 is a transverse section taken in the plane of the line 3—3 of Fig. 2;

Fig. 4 is a section similar to Fig. 1, but showing a modified form of the invention, and

Fig. 5 is a plan view of the toy shown in Fig. 4.

Referring to the drawing, and more particularly to Figs. 1, 2 and 3, the toy comprises a soap container 12, a bubble forming opening or bowl 14, a blow pipe 16 leading to the bowl 14, a passage 18 extending from container 12 to bowl 14, and a valve 20 in said passage or between said container and bowl. The valve 20 is normally closed, as by means of a compression spring 22, but may be opened manually to admit some of the liquid soap or soap solution from the container to the bottom of the bowl.

Considering the arrangement in greater detail, the toy comprises a base 24, which may most conveniently be molded out of any of the many plastics now in common use. The base is so designed that it may be molded in a single operation out of a single body of material, except for the plug or stop 26 which is used to permanently stop up the outer end of passage 18. This permits the passage to be formed by means of a straight retractible core. The base may be given any desired configuration, and in the present case is elliptical when viewed in plan, as will be clearly seen in Fig. 2. Much of the base is hollow, as is indicated at 28 in Fig. 1. This conserves molding material, and makes the toy light in weight.

The soap container 12 is a glass vessel enlarged at the bottom 30 and converging toward the top. It is provided with a threaded neck 32 at the bottom and may be made in accordance with known processes for making bottles. In the form here illustrated, the container is frustro-conical, and does not strictly simulate a trylon. It is closed at the top by a removable stopper 34 which may be made of rubber and may, if desired, be provided with a vent opening 36. The stopper is readily removed to fill the container, the container being filled with liquid soap appropriately diluted, or with any other suitable soap solution.

The base 24 is provided with a threaded socket or opening 38 for receiving the threaded neck 32 of the container. A gasket 40 may be provided to seal the connection between the container and the base. If desired, a small gasket may be used beneath the lower end or bottom of the neck, instead of a large gasket at the top of the base as shown. The base 24 is provided with a circular bead or ridge 42 immediately surrounding the lower end of the container, this being optional and merely for appearance.

The bowl 14 is molded within base 24. A bubble blown therefrom is indicated in broken lines at 44. It is manifest that the bowl should be at a lower level than the container if the resulting bubble is to simulate a perisphere which is associated with the container as a trylon resting on a supposed common ground level. It is therefore necessary to control the flow of soap solution to the bowl, and this is done by means of the valve 20. Valve 20 consists of a strip of metal having a hole 46 therethrough. A slot is formed transversely across base 24 during the molding operation, and the valve strip 20 is dimensioned to closely fit the resulting slot. The strip 20 is provided at one end with an enlarged head 48, and the opposite end is bent, as is indicated at 50, to limit outward movement of head 48. The valve is normally held in outward position by the compression spring 22 previously referred to, this spring being disposed between base 24 and

the head 48. When the valve is in this position, the hole 46 is displaced sidewardly from the vertical part of passage 18. This closed position of the valve is clearly illustrated in Figs. 1, 2 and 3 of the drawing. It will be evident, however, that a child, using the toy, need merely push the head 48 of the valve toward the toy body in order to bring the valve opening 46 into registration with passage 18, thereby permitting a quantity of soap solution to flow from the container to the bottom of the bowl. Space for a small collection of soap solution is formed by the passage 18 and the blow passage 52 meeting at the bottom of bowl 14, as is clearly shown at 54 in Fig. 1.

The bubbles are formed by blowing air through pipe or tube 16. This piece of tubing may be made of any suitable material, and may, for example, be made of metal. In that case the outer end is preferably guarded, as by means of a bead 56 cemented over the end of the pipe. This bead may be, and preferably is, made of the same plastic material as is used for the base of the toy. The inner end of pipe 16 is received in passage 52 and may be cemented or otherwise secured in position.

Attention is next directed to the modified form of the invention illustrated in Figs. 4 and 5. This toy generally similar in comprising a soap container 60, a base 62, a bowl 64 formed in the base, a blow pipe 66 and a valve 68. Base 62 is preferably molded out of plastic material, much as was previously described. The soap container 60 is made of transparent glass, but in the present case its base is triangular, as is best shown in Fig. 5, so that it constitutes a trylon. The upper end is sealed instead of being provided with a removable closure. The lower end is provided with a threaded neck received in a mating socket formed in base 62. To fill the soap container it is unscrewed from the base. The toy is, of course, inverted when the filled soap container is being replaced.

The valve consists of a frustro-conical head normally held downwardly against the seat formed at the upper end of passage 70, as by means of compression spring 72. The lower end of spring 72 bears against a head or thumb plate 74 which is riveted to the lower end of the valve stem after the valve has been dropped in position from above.

It will be understood that in operation the child holds the end of blow pipe 66 in his mouth and blows bubbles, which simulate a perisphere associated with trylon 60, as is indicated by the broken line 76. The base 62 is held in the child's hand, and one of the fingers, preferably the thumb, is disposed beneath the base in the neighborhood of valve head 74. At intervals when no further bubbles form, the child presses the valve head 74, thus permitting a further supply of soap solution to flow to the bottom of bowl 64.

No vent is shown at the top of container 60. A vent may be provided, if desired, but I find that it is unnecessary, probably because of the comparatively large opening leading from container 60 through passage 70 to bowl 64, and possibly also because a child may normally continue blowing through pipe 66 while the valve is opened, and this, undoubtedly, facilitates the flow or admission of air to the top of the container above the soap solution in the container.

As will be observed from inspection of the drawing, the blow pipes 16 and 66 are preferably disposed at an angle, thus helping form the desired well or sump space for liquid soap at the bottom of the bowl, and guarding against accidental flow of soap into the mouth of a child using the toy.

It is believed that the construction and operation of my improved toy for blowing soap bubbles, as well as the many advantages thereof, will be apparent from the foregoing detailed description. It will also be apparent that while I have shown and described my invention in a preferred form, many changes and modifications may be made in the structures disclosed without departing from the spirit of the invention defined in the following claims.

I claim:

1. A toy for blowing soap bubbles, said toy comprising a base having a flat bottom edge on which the toy may be rested when not in use, a soap container carried on said base and having a neck at the bottom which is received in the base, an upwardly directed bubble-forming bowl molded into the base at a point sidewardly displaced from the container, a passage formed in said base between the neck of the container and the bottom of the bowl, a manually openable valve disposed in said passage between the container and the bowl, resilient means for normally closing said valve, and a blow pipe having one end fixed in said base and leading downwardly to the bottom of the bowl, said pipe being so fixedly mounted in the base that the base with the container and bowl may be supported by means of the pipe when blowing bubbles.

2. A toy for blowing soap bubbles, said toy comprising a molded plastic base having a flat bottom edge on which the toy may be rested when not in use, a transparent glass soap container carried on said base and having a threaded neck at the bottom which is threadedly received in the base, an upwardly directed bubble-forming bowl molded into the base at a point sidewardly displaced from the container, a passage formed in said base between the threaded neck of the container and the bottom of the bowl, a manually openable valve disposed in said passage between the container and the bowl, resilient means for normally closing said valve, and a blow pipe having one end fixed in said base and leading downwardly to the bottom of the bowl, said pipe extending upwardly away from the bowl in a direction opposite to the soap container and being so fixedly mounted in the base that the base with the container and bowl may be supported by means of the pipe when blowing bubbles.

3. A toy for blowing soap bubbles, said toy comprising a base, a soap container carried on said base and having a neck at the bottom which is received in the base, an upwardly directed bubble-forming bowl molded into the base at a point sidewardly displaced from the container, a passage formed in said base and sloping downwardly between the neck of the container and the bottom of the bowl, a manually openable valve disposed in the upper end of said passage at the container to control the flow of soapy liquid from the container to the passage, resilient means for normally closing said valve, and a blow pipe having one end fixed in said base and leading downwardly to the bottom of the bowl, said pipe being so fixedly mounted in the base that the base with the container and bowl may be supported by means of the pipe when blowing bubbles.

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